

## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 09 July 1999 (09.07.99)	
<b>International application No.</b> PCT/US98/20578	<b>Applicant's or agent's file reference</b> FA/175A
<b>International filing date</b> (day/month/year) 01 October 1998 (01.10.98)	<b>Priority date</b> (day/month/year) 01 October 1997 (01.10.97)
<b>Applicant</b> GOODWIN, Brent, I. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

06 April 1999 (06.04.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

R. Forax

Telephone No.: (41-22) 338.83.38

DATE: 2/8/99  
DOCKETING REQ'D: YES / NO

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

MASTER

CPI  
PCT

To: JOHN S. CAMPBELL  
W. L. GORE & ASSOCIATES, INC.  
551 PAPER MILL ROAD  
P. O. BOX 9206  
NEWARK, DE 19714-9206

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

Date of Mailing  
(day/month/year)

1 FEB 1999

Applicant's or agent's file reference

FA/175A

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.

PCT/US98/20578

International filing date  
(day/month/year)

01 OCTOBER 1998

Applicant

W. L. GORE & ASSOCIATES, INC.

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

TERREL MORRIS

Telephone No. (703) 308-0661

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference FA/175A	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US98/20578	International filing date (day/month/year) 01 OCTOBER 1998	(Earliest) Priority Date (day/month/year) 01 OCTOBER 1997
Applicant W. L. GORE & ASSOCIATES, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (See Box I).
2. ☐ Unity of invention is lacking (See Box II).
3. ☐ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing
  - ☐ filed with the international application.
  - ☐ furnished by the applicant separately from the international application,
    - ☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
  - ☐ transcribed by this Authority.
4. With regard to the title,
  - ☒ the text is approved as submitted by the applicant.
  - ☐ the text has been established by this Authority to read as follows:
5. With regard to the abstract,
  - ☒ the text is approved as submitted by the applicant.
  - ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is:  
Figure No. 4
  - ☒ as suggested by the applicant.
  - ☐ because the applicant failed to suggest a figure.
  - ☐ because this figure better characterizes the invention.☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/20578

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :B32B 31/00, 27/12

US CL :156/160, 163; 428, 176, 182, 198

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 156/160, 163; 428, 176, 182, 198

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y, P	US 5,804,011 A (DUTTA et al.) 08 September 1998, see Abstract and Drawings.	1-83
Y, P	US 5,689,903 A (AUMANN) 25 November 1997, see Abstract and Drawings.	1-83
Y	US 5,529,830 A (DUTTA et al.) 25 June 1996, see Abstract and Drawings.	1-83
A	US 5,244,716 A (THORNTON et al.) 14 September 1993, see Abstract.	1-83
A	US 4,604,152 A (LIUKKO) 05 August 1986, see Drawings.	1-83

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

13 JANUARY 1999

Date of mailing of the international search report

01 FEB 1999

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

TERREL MORRIS

Telephone No. (703) 308-0661

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added.:

**"Statement under Article 19(1)" (Rule 46.4)**

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

**Consequence if a demand for international preliminary examination has already been filed**

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

**Consequence with regard to translation of the international application for entry into the national phase**

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

# PATENT COOPERATION TREATY

TE REC'D: 9/8/99  
 LOCKETING REQ'D: YES / NO  
 cc: ATTY  
 MASTER  
**PCT**

From the  
 INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: JOHN S. CAMPBELL  
 W. L. GORE & ASSOCIATES, INC.  
 551 PAPER MILL ROAD  
 P.O. BOX 9206  
 NEWARK, DE 19714-9206

## NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
 (day/month/year) **02 SEP 1999**

Applicant's or agent's file reference

FA/175A

### IMPORTANT NOTIFICATION

International application No.

PCT/US98/20578

International filing date (day/month/year)

01 OCTOBER 1998

Priority Date (day/month/year)

01 OCTOBER 1997

Applicant

W. L. GORE & ASSOCIATES, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US  
 Commissioner of Patents and Trademarks  
 Box PCT  
 Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

BLAINE R. COPENHEAVER

Telephone No. (703) 308-0661

# PATENT COOPERATION TREATY

## PCT


### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FA/175A	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/20578	International filing date (day/month/year) 01 OCTOBER 1998	Priority date (day/month/year) 01 OCTOBER 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): B32B 31/00, 27/12 and US Cl.: 156/160, 163; 428/176, 182, 198		
Applicant W. L. GORE & ASSOCIATES, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
 These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the report
  - II ☐ Priority
  - III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  06 APRIL 1999	Date of completion of this report  07 AUGUST 1999
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  BLAINE R. COPENHEAVER
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0661

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/20578

**I. Basis of the report**

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments).*

- ☒ the international application as originally filed.
- ☒ the description, pages 1-36 , as originally filed.  
pages NONE , filed with the demand.  
pages NONE , filed with the letter of \_\_\_\_\_  
pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_
- ☒ the claims, Nos. 1-83 , as originally filed.  
Nos. NONE , as amended under Article 19.  
Nos. NONE , filed with the demand.  
Nos. NONE , filed with the letter of \_\_\_\_\_  
Nos. \_\_\_\_\_ , filed with the letter of \_\_\_\_\_
- ☒ the drawings, sheets/fig 1-5 , as originally filed.  
sheets/fig NONE , filed with the demand.  
sheets/fig NONE , filed with the letter of \_\_\_\_\_  
sheets/fig \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

2. The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE .
- ☒ the claims, Nos. NONE .
- ☒ the drawings, sheets/fig NONE .

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/20578

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1-83</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-83</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-83</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-83 meet the criteria set out in PCT Article 33(2)-(3), because none of the prior art documents of record teach or fairly suggest the claimed combination of a laminate and a substrate comprising: a substrate; and a laminate joined to the substrate at a seam, wherein the laminate has a first layer comprising a waterproof functional layer and a second layer laminated to the first layer and comprising at least a first component being stable to a first temperature and a second component having a melting point lower than the first temperature. Also, none of the prior art documents of record teach or fairly suggest the claimed embodiment of claims 77-80, wherein the seam has a transverse seam strength of greater than 3 pli and wherein the stiffness of the seam is less than 50 mm<sup>-1</sup>.

Claims 1-83 meet the criteria set out in PCT Article 33(4), because the claimed laminate/substrate combination is useful for making an article of clothing.

----- NEW CITATIONS -----

NONE

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 07 SEP 1999

WIPO

PCT

19

Applicant's or agent's file reference FA/175A	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/20578	International filing date (day/month/year) 01 OCTOBER 1998	Priority date (day/month/year) 01 OCTOBER 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): B32B 31/00, 27/12 and US Cl.: 156/160, 163; 428/176, 182, 198		
Applicant W. L. GORE & ASSOCIATES, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

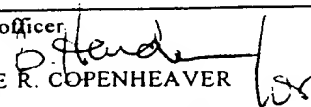
2. This REPORT consists of a total of 3 sheets.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  06 APRIL 1999	Date of completion of this report  07 AUGUST 1999
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  BLAINE R. COPENHEAVER
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0661

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/20578

**I. Basis of the report**

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments):*

☒ the international application as originally filed.

☒ the description, pages 1-36, as originally filed.

pages NONE, filed with the demand.

pages NONE, filed with the letter of \_\_\_\_\_.

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-83, as originally filed.

Nos. NONE, as amended under Article 19.

Nos. NONE, filed with the demand.

Nos. NONE, filed with the letter of \_\_\_\_\_.

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the drawings, sheets/fig 1-5, as originally filed.

sheets/fig NONE, filed with the demand.

sheets/fig NONE, filed with the letter of \_\_\_\_\_.

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☒ the description, pages NONE.

☒ the claims, Nos. NONE.

☒ the drawings, sheets/fig NONE.

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/20578

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. STATEMENT

Novelty (N)

Claims 1-83 YES  
Claims NONE NO

Inventive Step (IS)

Claims 1-83 YES  
Claims NONE NO

Industrial Applicability (IA)

Claims 1-83 YES  
Claims NONE NO

### 2. CITATIONS AND EXPLANATIONS

Claims 1-83 meet the criteria set out in PCT Article 33(2)-(3), because none of the prior art documents of record teach or fairly suggest the claimed combination of a laminate and a substrate comprising: a substrate; and a laminate joined to the substrate at a seam, wherein the laminate has a first layer comprising a waterproof functional layer and a second layer laminated to the first layer and comprising at least a first component being stable to a first temperature and a second component having a melting point lower than the first temperature. Also, none of the prior art documents of record teach or fairly suggest the claimed embodiment of claims 77-80, wherein the seam has a transverse seam strength of greater than 3 pli and wherein the stiffness of the seam is less than 50 mm<sup>-1</sup>.

Claims 1-83 meet the criteria set out in PCT Article 33(4), because the claimed laminate/substrate combination is useful for making an article of clothing.

----- NEW CITATIONS -----

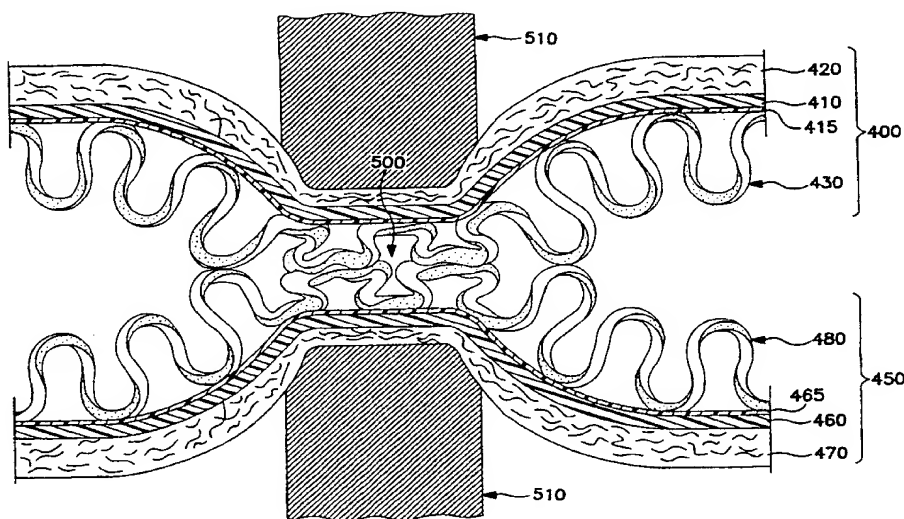
NONE



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>B32B 31/00, 27/12</b>	<b>A1</b>	(11) International Publication Number: <b>WO 99/16620</b> (43) International Publication Date: 8 April 1999 (08.04.99)
<p>(21) International Application Number: PCT/US98/20578</p> <p>(22) International Filing Date: 1 October 1998 (01.10.98)</p> <p>(30) Priority Data: 97117071.7 1 October 1997 (01.10.97) EP</p> <p>(71) Applicants (for all designated States except US): W. L. GORE &amp; ASSOCIATES, INC. [US/US]; 551 Paper Mill Road, P.O. Box 9206, Newark, DE 19714 (US). W. L. GORE &amp; ASSOCIATES GMBH [DE/DE]; Hermann-Oberth-Strasse 22, D-85640 Putzbrunn (DE).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): GOODWIN, Brent, I. [US/US]; 40 Daniel Bathon Road, Ekton, MD 12921 (US). HOTTNER, Martin [DE/DE]; Sperberstrasse 31, D-83052 Bruckmühl (DE).</p> <p>(74) Agents: CAMPBELL, John, S. et al.; W. L. Gore &amp; Associates, Inc., 551 Paper Mill Road, P.O. Box 9206, Newark, DE 19714-9206 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>	

(54) Title: SEAM JOINING A WATERPROOF LAMINATE WITH TEXTILE LAYER MADE OF MULTI-COMPONENT YARNS



## (57) Abstract

The invention discloses a textile laminate (1, 400, 450) with a first layer (5) comprising a waterproof and preferably breathable functional layer (10, 20) and a second layer (30) comprising at least a first component and a second component. The first component is stable to a first temperature and the second component melts at a lower second temperature. In one embodiment of the invention, the first component is polyester and the second component may be a thermoplastic such as copolyester, polyamide, copolyamide or polyethylene. The textile laminate (1) is particularly advantageous when two of such laminates (1, 400, 500) have to be joined or fused together. In this case a waterproof seam is created at the seam (500) between the two laminates (1, 400, 500).

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
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CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/20578

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :B32B 31/00, 27/12

US CL :156/160, 163; 428, 176, 182, 198

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 156/160, 163; 428, 176, 182, 198

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y, P	US 5,804,011 A (DUTTA et al.) 08 September 1998, see Abstract and Drawings.	1-83
Y, P	US 5,689,903 A (AUMANN) 25 November 1997, see Abstract and Drawings.	1-83
Y	US 5,529,830 A (DUTTA et al.) 25 June 1996, see Abstract and Drawings.	1-83
A	US 5,244,716 A (THORNTON et al.) 14 September 1993, see Abstract.	1-83
A	US 4,604,152 A (LIUKKO) 05 August 1986, see Drawings.	1-83



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T*	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Date of the actual completion of the international search

13 JANUARY 1999

Date of mailing of the international search report

01 FEB 1999

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